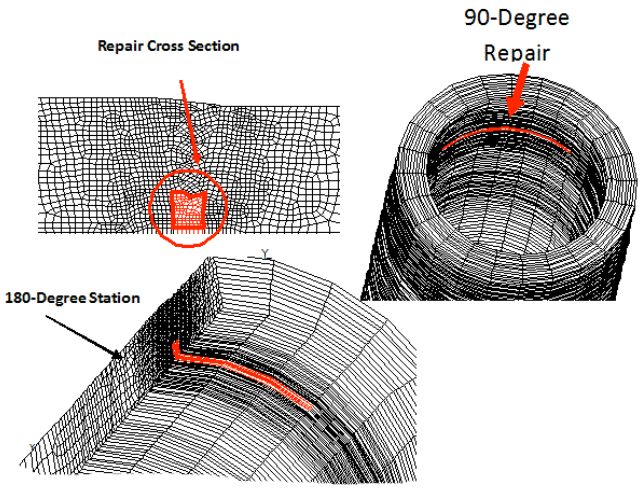
Committee (or Division) name: Materials and Fabrication

Topic Title: MF-4 - Welding Residual Stress and Distortion Simulation and Measurement

Description: Weld residual stresses can be a source of damage development in metal structures. Control of weld induced residual stresses can lead to marked improvements in the corrosion crack initiation and growth and fatigue life in structural systems. Weld models have been used for many years for this purpose and have proven to be a very valuable tool in helping to control and mitigate degradation in welded components, especially under consideration of repair welds. Some of the topics covered in this set of sessions include the following.



- Modelling and measurement of distortion and residual stress due to welding, manufacture or service history including weld repair
- Assessment of the influence of residual stress on structural integrity
- Methods to account for residual stress in design and assessment procedures (particularly those of relevance to pressure vessels and piping)
- Procedures to minimise distortion and residual stress in welded components
- Novel techniques in welding

Objectives

It is the objective of this topic to discuss recent developments in the field of welding simulation, including weld repair and the treatment of residual stresses and distortions in the integrity assessment of vessels and piping. Authors and presenters are invited to participate in this session to help expand international cooperation, understanding and promotion of efforts in the area of welding simulation.

Key dates:

SCHEDULE: Authors can submit an abstract on the web site: http://www.asmeconferences.org/pvp2010/ Abstracts are due by November 20, 2009. Authors will be notified of abstract acceptance by December 18, 2009. Draft papers are due by March 5, 2010. Paper peer review comments will be returned by April 2, 2010. Final reviewed papers in ASME format for

publication and the 1903 Copyright Transfer Form for each paper must be received by April 23, 2010. All accepted papers will be published via CD-ROM/DVD.

Topic co-organizers:

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